

IV. EVARNE. To this genus he refers no. 3 of the genus *Antinoë*, p. 192, the *Polynoë impar* of Johnson.

V. LANILLA. To this genus he refers no. 1 of the genus *Antinoë*, p. 192, the *Polynoë lævis* of MM. Audouin & Edwards.

VI. MELÆNIS, and VII. EUCRANTIA. Of these two genera no species had been described previously.

VIII. ALENTIA. To this genus Malmgren refers no 9 of the genus *Halosydna*, p. 187, the *Polynoë gelatinosa* of Sars.

IX. ENIPO, and X. NEMIDIA. These genera approach the restricted genus *Polynoë*; but no species had previously been described.

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Some Account of a newly discovered British Fish of the Family *Gadidæ* and the genus *Couchia*. By JONATHAN COUCH, F.L.S., &c.

[Read Nov. 16, 1865.]

THE genus *Couchia* was formed by Mr. W. Thompson, and has been adopted by Dr. Günther, as separated from that of *Motella* or the Rocklings by the more moderately lengthened body of the species, which is also compressed, and by the silvery and brilliant appearance of the sides. In fact, in their general proportions the fishes of this genus are as different from the Rocklings as, among their kindred the other *Gadidæ*, the Pollack and Whiting are from the Ling; while their manners also, so far as they are known, are as different as their shape. And yet, in some of the more prominent particulars of their organization, there exists a similarity between the *Motellæ* and *Couchiæ*, which is the more remarkable as it consists of a relative gradation in the species of each, which is only to be traced throughout by the discovery of one, of which a notice is now presented to the Linnean Society.

As there is a species of *Motella* which is characterized by the presence of four prominent barbs placed in pairs on the front of the head, with a barb dependent also from the lower jaw, so we find in the best-known, and probably most widely spread, of the genus *Couchia*, the Mackerel Midge (*C. glauca*), a similar conformation, together with a characteristic ciliated membrane situated in a chink in advance of the dorsal fin; which membrane certainly is not itself a fin, but an organ of sensibility which is in its most lively motion when the proper fins are at rest. But long before

the discovery of this fish as a separate species, an account had been given by Colonel Montagu of a kindred fish, which he supposed to be common to the coast of Devonshire, and which he described as being distinguished by the possession of a pair only of these frontal barbs; and yet for more than half a century this species of Montagu had remained in obscurity, until it was again brought to light by the diligent and acute observation of Mr. Thomas Edward of Banff, who found it in some abundance in the Moray Firth, and kindly supplied the writer with examples, which enabled him to give an account of it, with a figure, in the concluding portion of the fourth volume of his 'History of the Fishes of the British Islands.' The five-bearded species had been already represented in a coloured figure in the third volume of the same book, as also in Mr. Yarrell's well-known volumes. But a vacancy still existed in the analogy between the species of the nearly allied genera *Motella* and *Couchia*; and it is this, again, we are able to supply through the persevering diligence of Mr. Edward, whose intelligence enabled him to detect the existence of another species, and whose kindness has, with an example, communicated materials which enable the writer to produce, with a satisfactory likeness, a somewhat extended notice of its actions, the latter of which will be described, as far as can be, in this attentive observer's own words. The length of the example from which my notes were taken is an inch and five-eighths; and as half a dozen others were about the same size, it may be judged to be their usual magnitude, as it does not differ much also from that of *C. glauca* and *C. Montagu*. Compared with the latter, its shape is more slender, the pectoral fin rather more lengthened and pointed, the ventral fins longer and slender, the cilia on the back, along the edge of the membrane, more extended, apparently more numerous, and very fine; barb on the lower jaw long; but what especially marks this little fish as distinct from the other species is, that, besides the pair of barbs in front of the head, there is a single one of much larger size in front of the upper lip, and which points directly forward with a slight inclination downward, thus analogically answering to the middle barb that projects from the snout of the four-bearded Rockling (*Motella cimbria*). It is probable that there are teeth in the jaws; but they can scarcely be seen; and there is a row of pores along each border of the superior maxillary bone. Some further particulars of this fish I prefer to give in the words of its discoverer, who describes its colour as a beautiful deep green along the back when caught, the sides brilliantly white; but

when it reached me, preserved in spirit, it was blue, with a tinge of the same along the lateral line. In some examples in Mr. Edward's possession the colour on the back was a faint yellow, with a narrow stripe of bluish purple on the side, and in all of them the silvery hue of the lower portions of the body is found to rise nearer the back than in the other species of this genus. The back also and head were thickly covered with very small, dark, star-like spots, which, together with two narrow yellow streaks extending from the top of the head, above the mouth, and diverging to the eyes, had disappeared when subjected to my examination. Iris of the eye silvery, the pupil bluish green; the fins dull grey, as also the pair of barbs; but the single one on the lip at its root is almost of as deep a colour as the top of the head and back.



Five examples of these little fishes were kept alive by Mr. Edward for a week; and during that time he describes their action as being lively and singular, although perhaps not generally so active as the Mackerel Midge (*C. glauca*), and in general they appeared to prefer to remain near the bottom rather than to swim aloft. When at liberty their habit is to keep in small companies; but they seem to treat other fishes as enemies, and even their own companions are occasionally subject to their hostility, as is shown in the following instances related by Mr. Edward. He placed a Goby, he does not say of what species, in the same vessel with these fishes; but in the space of twenty minutes his attention was drawn to a commotion among them, which arose from the persecution inflicted on the unfortunate stranger, which they were violently assailing with their heads, while it endeavoured to escape from their fury. After a considerable time, however, this eager violence proved a misfortune to one of the Midges; for, missing its mark as it rushed forward, its head was dashed against the side of its glass prison with such force as to cause it to sink motionless to the bottom, and, although at times it appeared to struggle against its fate, in about an hour it was dead; as was the Goby in a few minutes after. Nor did this pugnacious disposition cease when the apparent cause of it had ceased to live; for, although they seemed peaceably disposed when first placed in the vessel, they now began to attack each other vigorously, as also

their dead companion at the bottom ; and if this fury subsided for a time, it was repeatedly renewed without apparent cause, and with an activity which caused them sometimes to leap out of the water, and even over the side of the vessel, to a considerable distance. Mr. Edward surmises that in the open sea this propensity to leap above the surface is rarely exercised ; but it renders it difficult to keep them alive within a narrow space, and in the present instance it became necessary to place a (glass) cover on the vessel in which they were confined—an arrangement which speedily caused the death of two of the remaining combatants, in consequence of the injury they received from leaping against it in the violence of their contention. Mr. Edward remarks that he never witnessed the lifting up of the longer filament in front of the ciliated membrane on the back, but only of such as were behind it. The latter, however, were kept in constant vibratile action when the proper fins were at rest (as is the case also with this membrane in the Rocklings), while on the slightest disturbance their motion ceased and they sank within the protection of the channel prepared to receive them. The single barb in front of the upper lip appears to be endued with some special function, since, unlike the others, it is capable of visible, and perhaps voluntary, extension and retraction.

I regard it as no other than an act of justice to the discoverer of this fish to assign to it the name of Edward's Midge (*Couchia Edwardii*), of which the specific character is sufficiently obvious.

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Some Observations on British *Salpæ*. By W. C. McINTOSH,  
M.D., F.L.S.

[PLATE I.]

[Read Nov. 16, 1865.]

THE comparative rarity of these swimming Molluscoids within the ordinary experience of British zoologists induced me to pay some attention to them when lately engaged with another department of the science in the Hebrides. Indeed during the month of August they were the grand feature of the Western Ocean ; so that the late Professor E. Forbes, in his three voyages through Scottish seas, during which he states that he saw not a single specimen \*, must have passed these islands at the wrong season,

\* And Gossé observes, in his 'Manual of Marine Zoology,' vol. ii., "They are chiefly tropical and oceanic animals, swimmers in the wide and open sea, visiting our coast so rarely that we can scarcely reckon them as properly British animals."